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What is claimed is:

1.   A logic verification system comprising: a
first logic cone extraction section for extracting first
logic cones from a machine-executable object code
compiled from a behavioral level description written in
5   a programming language.

2.   The logic verification system according to
claim 1, further comprising:
        a second logic cone extraction section for
extracting second logic cones from an RT level
10   description; and
        a logic cone comparison section for comparing
the first logic cones and the second logic cones to verify
equivalence between the first and second logic cones.

3.   The logic verification system according to
15   claim 1, wherein the first logic cone extraction section
includes a symbolic simulation section.

4.   The logic verification system according to
claim 2, wherein the first logic cone extraction section
includes a symbolic simulation section.

20   5.   A logic verification system comprising:

a storage section for storing

an object code compiled from an behavioral level

description written in a programming language,

an RT level description generated from the

5   behavioral level description,

correspondence information which specifies

information on pairs of fragments of descriptions to be

compared which are included in the behavioral level

description and the RT level description and which

10   specifies information on pairs of signals to be compared

for each description pair, and

compile information including mapping information

between the behavioral level description and the object

code;

15   a first logic cone extraction section for

extracting first logic cones of variables by

searching a code portion and the variables of the

object code corresponding to each fragments of

descriptions and each signals of behavioral level

20   description to be compared which are specified by the

correspondence information by referencing the compile

information,

setting initial symbol values in the variables,

performing symbolic simulation from the start to end

25   points of the code portion to produce symbol values when

the variable symbolic simulation ends, and

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using the symbol values as the first logic cones of the variables;

a second logic cone extraction section for extracting second logic cones each for the signals for each fragments of description of RT level description to be compared which are specified by the correspondence information; and

a logic cone comparison section for comparing the first logic cones and the second logic cones for each signals for each of the fragments of descriptions to be compared in the behavioral level description and the RT level description which are specified by the correspondence information.

6.   A logic verification system comprising:

a first logic cone extraction section for extracting first logic cones from a machine-executable object code compiled from an behavioral level description written in a programming language;

a storage section for storing properties to be met by the behavioral level description; and

a model checking section for checking whether the object code meets the properties.

7.   A logic cone extraction apparatus comprising:

an input section for inputting an object code

compiled from a program description, correspondence

information which specifies logic cone extraction areas

within the program description and signals to be

extracted for each of the logic cone extraction areas,

5   and compile information including mapping information

between the program description and the object code;

         a symbolic simulation section which, by

referencing the compile information, searching a code

portion and variables of the object code corresponding

10   to logic cone extraction areas and signals to be extracted

which are specified by the correspondence information,

sets initial symbol values in the variables, and performs

symbolic simulation from the start to end points of the

code portion; and

15   :   an output section for outputting symbol values

which are obtained when the variable symbolic simulation

ends, as logic cones of the variables.

         8.   A logic verification method comprising the

step of extracting first logic cones from a

20   machine-executable object code compiled from a

behavioral level description written in a programming

language.

         9.   The logic verification method according to

claim 8, further comprising the steps of:

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       extracting second logic cones from an RT level
description; and

       comparing the first logic cones and the second
logic cones to verify equivalence between the first and
5   second logic cones.

    10. The logic verification method according to
claim 8, wherein the first logic cones are extracted by
performing symbolic simulation.

    11. The logic verification method according to
10   claim 9, wherein the first logic cones are extracted by
performing symbolic simulation.

    12. A logic verification method comprising the
steps of:

       inputting an object code compiled from an
15   behavioral level description written in a programming
language, an RT level description generated from the
behavioral level description, correspondence
information which specifies information on pairs of
fragments of descriptions to be compared which are
20   included in the behavioral level description and the RT
level description and which specifies information on
pairs of signals to be compared for each description pair,
and compile information including mapping information

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between the behavioral level description and the object
code;

    searching a code portion and the variables of
the object code corresponding to each fragments of
5   description and each signals of behavioral level
description to be compared which are specified by the
correspondence information by referencing the compile
information;

    setting initial symbol values in the
10 variables;

    performing symbolic simulation from the start
to end points of the code portion;

    determining first logic cones of the variables
as symbol values when the variable symbolic simulation
15 ends;

    extracting second logic cones each for the
signals for each fragments of RT level description to be
compared which are specified by the correspondence
information; and

20   comparing the first logic cones and the second
logic cones for each signals for each of the descriptions
to be compared in the behavioral level description and
the RT level description which are specified by the

correspondence information.

        13.   A logic verification method comprising the
steps of:
               extracting first logic cones from a
5   machine-executable object code compiled from an
    behavioral level description written in a programming
    language;
               inputting properties to be met by the
    behavioral level description; and
10   checking whether the object code meets the
    properties.

        14.   A logic cone extraction method comprising the
    steps of:
               inputting an object code compiled from a
15 program description, correspondence information which
    specifies logic cone extraction areas within the program
    description and signals to be extracted for each of the
    logic cone extraction areas, and compile information
    including mapping information between the program
20 description and the object code;
               searching a code portion and variables of the
    object code corresponding to logic cone extraction areas
    and signals to be extracted which are specified by the
    correspondence information by referencing the compile

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information;

setting initial symbol values in the variables;

performing symbolic simulation from the start

5   to end points of the code portion; and

outputting symbol values which are obtained when the variable symbolic simulation ends, as logic cones of the variables.

15.   A computer program instructing a computer to
10   perform logic verification, the program comprising the steps of:

a) extracting first logic cones from a machine-executable object code compiled from a behavioral level description written in a programming
15   language;

b) extracting second logic cones from an RT level description; and

c) comparing the first logic cones and the second logic cones to verify equivalence between the
20   first and second logic cones.

16.   The computer program according to claim 15, wherein, in the step a), the first logic cones are extracted by performing symbolic simulation.

17.   The computer program according to claim 16,
further comprising the step of storing an object code
compiled from an behavioral level description written in
a programming language, an RT level description generated
5   from the behavioral level description, correspondence
information which specifies information on pairs of
fragments of descriptions to be compared which are
included in the behavioral level description and the RT
level description and which specifies information on
10   pairs of signals to be compared for each description pair,
and compile information including mapping information
between the behavioral level description and the object
code,

        wherein the step a) comprises the steps of:
15   a.1) searching a code portion and the variables
of the object code corresponding to each fragments of
description and each signals of behavioral level
description to be compared which are specified by the
correspondence information by referencing the compile
20   information;

        a.2) setting initial symbol values in the
variables;

        a.3) performing symbolic simulation from the
start to end points of the code portion; and

25   a.4) determining the first logic cones of the
variables as symbol values when the variable symbolic

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simulation ends.

    18.   The computer program according to claim 17, wherein

    the step b) comprises the step of extracting
5   the second logic cones each for the signals for each fragments of RT level description to be compared which are specified by the correspondence information, and

    the step c) comprises the step of comparing the first logic cones and the second logic cones for each
10 signals for each of the fragments of descriptions to be compared in the behavioral level description and the RT level description which are specified by the correspondence information.

    19.   A computer program instructing a computer to
15 perform logic verification, the program comprising the steps of:

    extracting first logic cones from a machine-executable object code compiled from an behavioral level description written in a programming
20 language;

    inputting properties to be met by the behavioral level description; and

    checking whether the object code meets the properties based on the first logic cones.

20.   A computer program instructing a computer to perform logic cone extraction, the program comprising the steps of:

inputting an object code compiled from a program description, correspondence information which specifies logic cone extraction areas within the program description and signals to be extracted for each of the logic cone extraction areas, and compile information including mapping information between the program description and the object code;

searching a code portion and variables of the object code corresponding to logic cone extraction areas and signals to be extracted which are specified by the correspondence information by referencing the compile information;

setting initial symbol values in the variables;

performing symbolic simulation from the start to end points of the code portion; and

outputting symbol values which are obtained when the variable symbolic simulation ends, as logic cones of the variables.